REMARKS/ARGUMENTS

Claims 22-24, 26-28, 31, 52, 54-55 and 61-63 are active. Claims 25, 30, 36-51 and 56-60 have been withdrawn from consideration. Claim 22 has been amended based on the last sentence in paragraph [0034] of the published application. Claims 52 and 54 have been amended for consistency with the other claims and for clarity. No new matter has been introduced. The Applicants respectfully request that the Examiner enter this after-final Amendment to place this application in condition for allowance or in better condition for appeal. The proposed amendments do not raise new issues or necessitate a new search by the Examiner, since the amendment is based on elements earlier claimed or inherent in the previously examined claims. Entry of this Amendment would also permit the Applicants to respond to new arguments raised in the final rejection.

Restriction/Election

The Applicants previously elected without traverse **Group I**, claims 22-24, 26-36 and 52-55, directed to adenovirus products and methods involving the deletion of residues 311-319 of SEQ ID NO: 2, and the species **(i) type 2 canine adenovirus and (ii) cat**. The Applicants understand that additional species will be rejoined and examined upon an indication of allowability for a generic claim reading on the elected species. The Applicants respectfully request that the claims of the nonelected group(s) or other withdrawn subject matter which depend from or otherwise include all the limitations of an allowed elected claim, be rejoined upon an indication of allowability for the elected claim, see MPEP 821.04.

Rejection—35 U.S.C. §112, second paragraph

Claims 52, 54 and 55 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. This rejection is moot in view of the amendments above.

Rejection—35 U.S.C. §102

Claims 22, 26-28, 31, 52, 54, and 55 were rejected under 35 U.S.C. 102(b) as being anticipated by Soudais, et al., JASGT 3:631 (2001). Soudais does not disclose the invention because it is directed to preparing CAV-2 vectors which comprise CAV-2 ITR and the CAV-2 E2B region but which don't include, and even more intentionally exclude, the whole E1 region. Claim 22 has been revised to further clarify this difference.

Claim 22 refers to a recombinant CAV2 adenovirus which replicates and **produces infectious viral particles** but the recombinant virus disclosed by Soudais does not.

Soudais disclose the generation of several mutants with different combinations of deletions of the encapsidation signals. These mutants are listed and represented in Figure 2b and were generated (*cf. Construction of packaging mutants.* page 632, 2nd column) by recombination between the CAV genome and transfer plasmids which were themselves derived from the plasmid pCAVGFP. Plasmid pCAVGFP contains the CAV-2 ITR and packaging domain from bp 1 to 411, followed by a 1.9-kb EGFP expression cassette, and by the CAV-2 E2B region.

This means that it does not comprise the E1 region. As a consequence, the recombinant viruses obtained from this plasmid do not comprise the E1 region and that the disclosed recombinant viruses are **unable to produce infectious viral particles.**

This is further indicated by Soudais which specify that "All the vectors in this study are **replication-defective** as the E1 region is functionally deleted" (page 632, 2nd column, lines 43-44). This also is clearly apparent from Figure 2b which shows that in all the vectors the E1 coding region of CAV-2 (represented at the top of Figure 2b) beginning at position 500, is absent and replaced by the GFP cassette.

In contrast, vectors of instant claim 22 have a deletion which, at most, ends before the beginning of the sequence encoding E1A: they always comprise the full length E1 coding region. Consequently, Soudais *et al.* do not anticipate amended claim 22 and the other rejected claims and this rejection cannot be sustained.

Rejection—35 U.S.C. §103

Claims 61-63 were rejected under 35 U.S.C. 103(a) as being unpatentable over Soudais, et al., JASGT 3:631 (2001), in view of Haddada, et al., U.S. Patent No. 6,294,377. This rejection cannot be sustained for the reasons given above: Soudais does not teach the recombinant adenovirus of claim 22 which retains "all of the E1A coding sequence as well as regions of the E1 gene located downstream thereof, said regions including the E1A polyadenylation signal and the E1B region".

Haddada was relied upon as disclosing the use of adenoviruses of canine origin and in particular CAV-2 adenoviruses (col. 2, l. 44-46). However, this reference teaches that these adenoviruses "should preferably be defective, that is to say incapable of propagating autonomously in the body in which they are administered" (col. 2, l. 62-65; see also col. 4, last paragraph).

In addition, Haddada suggest amplifying the defective character of their adenoviruses in humans by modifying (e.g., removing, rendering non-functional, etc.) the sequences needed for replication of said viruses; for instance, the E1A region in CAV-2 (col. 3, l. 1-17). Further, claim 5 recites a CAV-2 adenovirus which has a genome that lacks the E1 region. Haddada also want to avoid the production of viral proteins by the adenoviruses they disclose.

As explained above, the invention differs from Soudais in that it expressly concerns CAV-2 ***retaining the E1 region***. Now, Haddada don't suggest retaining the E1 region; they rather propose to remove it partially or totally. The adenoviruses disclosed by Haddada

further differ from the CAV-2 adenoviruses of the invention in that they don't replicate or produce infectious viral particles, which is obtained in particular by deleting the E1 region partially or totally, as disclosed by Haddada (first lines of paragraph 3) and by Soudais (*Materials and Methods*/Construction of packaging mutants). So, the person having ordinary skill in the art would not have been motivated to implement the CAV-2 of the invention, in particular to retain the E1 region as (1) Soudais expressly deletes this region for the objective of having replication-defective vectors and (2) Haddada confirm that it is desirable to use such replication-defective adenoviruses, in particular obtained by deleting the E1 region.

Consequently, this rejection cannot be sustained because the prior art does not disclose or suggest all the elements of the invention and does not provide a reasonable expectation of success for the method of claims 61-63. Thus, this rejection cannot be sustained.

Allowable Subject Matter

The Applicants express their appreciation to Examiner Burkhart for pointing out allowable subject matter in claims 23 and 24. In view of the amendments above, all of the claims are now in condition for allowance.

Conclusion

This application presents allowable subject matter and the Examiner is respectfully requested to pass it to issue. The Examiner is kindly invited to contact the undersigned should a further discussion of the issues or claims be helpful.

Respectfully submitted,

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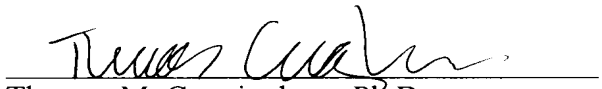

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